DOCUMENT RESUME

ED 211 240 RC 012 936

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TITLE The Satisfaction and Happiness of Some Senior Citizens in Rural Ontario.
PUB DATE 19 Aug 81
NOTE 49p.; Paper presented at the Annual Meeting of the Rural Sociological Society (Guelph, Ontario, Canada, August 19-23, 1981).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Community Satisfaction; Economic Factors; Health; Housing; Human Services; *Life Satisfaction; Literature Reviews; *Older Adults; *Quality of Life; Research Methodology; *Rural Environment; Rural Farm Residents; Rural Nonfarm Residents; *Rural Population; Self Esteem; Sex Differences; Social Environment
IDENTIFIERS *Happiness; Ontario (Huron County)

ABSTRACT

After reviewing recent gerontological literature on satisfaction and happiness from the point of view of explanations by analysis of constituents, explanations by synthesis of correlates, and mixtures of these two types of explanations, the report describes results of a social survey of 392 Huron County (Ontario) rural residents over age 60. The average age of respondents was 77 years; 53% were female; 53% married; 63% described themselves as retired; 48% had completed grade 8 or less; 46% reported that at some time in their lives their main income was from farming; and 18% of the noninstitutionalized participants lived in the countryside. A gap-theoretical account of satisfaction and happiness called 'the Michigan model' was supported for 12 domains (state of health, financial security, kind and frequency of family contact, relationship with spouse, friendships, suitability and atmosphere of housing, area lived in, recreational activites, spiritual fulfillment, self-esteem, convenience of transportation, and provision of government services) and life as a whole. Differences in the constituent patterns for satisfaction and happiness with life as a whole were found for males, females, those who had lived off farming, those who had not, people aged 60-74, and 75 and above. (Author/NEC)

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The Satisfaction and Happiness of Some Senior Citizens in Rural Ontario*

by

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Ontario, Canada

August 1981

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Paper presented at the 1981 meeting of the Rural Sociological Society in Guelph, Ontario, August 19-23, 1981.

RC 012936

* The result of working in a community in which relations tend to be more familial than professional is that it's difficult to know exactly who to thank after completing a job to which many people contributed. Still, I'm grateful for the help of the following: M. Dahms, A.M. Fuller, V. Gilmor, J. Mage, L. Marritt, A. Martin-Matthews, L. Reith, R.A.J. Ross, W.E. Tossell and L.A. Wood. Several people outside Guelph also gave me helpful comments: F.M. Andrews, S.L. Hoover, D.F. Johnston, K.S. Markides, T. Mourn, E.A. Powers, E.L. Snider and F.W. Young. I am of course responsible for the final product, for better or worse.

ABSTRACT

After reviewing recent gerontological literature on satisfaction and happiness from the point of view of explanations by analysis of constituents, explanations by synthesis of correlates and mixtures of these two types of explanations, I described some results of a social survey of rural Ontario seniors. A gap-theoretical account of satisfaction and happiness called 'the Michigan model' was supported for 12 domains and life as a whole. Differences in the constituent patterns for satisfaction and happiness with life as a whole were found for males, females, those who had lived off farming, those who had not, those aged 60-74, and 75 and above.

1. INTRODUCTION

In 1976 the Rural Development Outreach Project (RDOP) was initiated at the University of Guelph with the help of a grant from the Kellog Foundation of Michigan. Several different sub-projects were set in motion through the RDOP, including the research reported in this paper. In the next section (2) I distinguish two types of explanation used in gerontological literature to account for satisfaction and happiness, namely, explanation by analysis of constituent elements and explanation by synthesis of correlates. In the next three sections (3-5) I review the recent literature from the point of view of the distinctions drawn in section 2. In section 6 I describe a species of explanation by analysis of constituents that seems to involve emergent properties. The next two sections (7 and 8) are devoted to the description of a social survey of 400 senior citizens in a rural county (Huron) of Ontario. A gap-theoretical account of satisfaction and happiness called 'the Michigan model' is supported for 12 domains (health, housing, etc.) and life as a whole in section 9. In section (10) distinct patterns of constituent elements in satisfaction and happiness are found for the total sample, males, females, farm and nonfarm people, people 60 - 74 and 75 and above.

2. CONSTITUENTS VERSUS CORRELATES

In Michalos (1980a) I reviewed some of the recent literature on models of satisfaction and happiness from the point of view of their adequacy as scientific explanations of observed anomalies. As I searched the literature for the present investigation, it became clear that most of the gerontological research was not initiated from this point of view. I don't recall

a single author claiming that research on older people should be undertaken because, for example, older people seem to be more or less satisfied with their lot than they ought to be. What does dominate the gerontological literature is an interest in explaining satisfaction and happiness (often hereafter 'S' and 'H' for short) by something else. Sometimes the things used to explain S and H seem to be and to be regarded as constituent elements and sometimes as merely correlated elements. Since there are important theoretical and practical consequences attached to explanations in terms of constituents versus explanations in terms of correlates, it's worthwhile to clarify the issues immediately.

One way to understand and explain things (e.g. water, frogs, syllogisms, clocks) is to take them apart. If one knows, for example, that inside a frog's skin there is a cardio-vascular system with a heart pumping oxygenated blood in a circular fashion throughout the frog's body, then one understands and can explain important aspects of frogs. The more inner parts and their functions one knows, the better one is able to understand and explain frogs. Similarly, one might argue that the more inner parts and their functions one knows about S and H in elderly people, the better one will be able to understand and explain them. Thus, some investigators aim to explain S and H in seniors by the analysis of constituent elements, e.g. Sauer, Shehan and Boymel (1976).

Another way to understand and explain things is to put them together with other things. If one knows, for example, that frogs live in marshy areas and eat insects, then one has some understanding of and can explain what it is to be a frog. The more one knows about the ecological systems required to sustain frogs, the better one is able to understand and explain them. Similarly, one might argue that the more ecological (environmental,

contextual) information one has about S and H in seniors, the better one will be able to understand and explain them. Thus, some investigators aim to explain S and H in the elderly by the synthesis of correlated elements, e.g. Conner, Powers and Bultena (1979).

The theoretical significance of the difference between explanations by analysis of constituents versus explanations by synthesis of correlates should be obvious. Theories designed to account for the inner workings of things may be quite independent of theories designed to account for the outer workings of things. People who expect or want to explain one or the other sort of system may be thoroughly disappointed if they happen to encounter theories or models designed for the opposite sort. Thus, for example, Markides and Martin (1979, p.92) seem to have been looking for an explanation by synthesis when they wrote the following sentence about the explanation offered by Medley (1976).

> "In our analysis...we avoided the examination of variables which themselves are measures of satisfaction with certain facets of life, since we believe that knowledge that persons who are satisfied with certain aspects of their life tend to be more satisfied with their life as a whole does not lead to better theory, nor does it provide useful suggestions for policy to improve the lot of the elderly."

On the contrary, from the point of view of explaining (global) satisfaction with life as a whole by analysis of its constituent elements((domain) satisfaction with family relations, with finances, housing, etc.), there is no more direct route to "better theory". Indeed, if one were a hardline positivist believing in a logical and ontological distinction between facts and values, then one might be committed to the view that only such a

constituent analysis could be given. That is, if feelings and expressions of satisfaction are evaluations and if evaluations cannot be derived from facts, then feelings and expressions of satisfaction cannot be derived from facts. Thus, the positivist would continue, if there is going to be any analysis of satisfaction with life as a whole, it must be in (other evaluative) terms of satisfaction with particular domains of life. As I explained in Michalos (1980b, 1981), I don't find the positivist line persuasive, but others might.

The practical significance of the difference between explanations by analysis of constituents versus explanations by synthesis of correlates may not be obvious. What one must never forget about being practical is that practicality is a relative notion. Nothing is practical, relevant or useful simpliciter. Things, including scientific research, can only be practical, relevant or useful for something or other. Hence, in order to know what practical significance any kind of explanation might have for public policy-making, for example, one must have some ideas about particular policies.

As illustrations of the use of the two kinds of explanations in public policy-making, we may consider first the case of transportation in rural areas. Participants in the RDOP heard from a variety of sources that the quality of life in rural areas is significantly connected to the ability to travel relatively long distances relatively often (i.e. relative to what is required by urbanites). In our explanation of satisfaction with life as a whole by analysis of its constituents (Exhibit 8), we were able to measure the relative impact of satisfaction with transportation facilities on satisfaction with life as a whole. For the group of rural seniors in our sample, satisfaction with transportation facilities ranked next to the last in its impact on satisfaction with life as a whole. Satisfaction with housing had the greatest impact on satisfaction with life as whole.

Therefore, if one had no other information and if one were considering the investment of public resources in the sampled rural areas with the aim of improving the quality of life as a whole for seniors, one would at least have to consider very seriously the likelihood that dollar-for-dollar more would be accomplished by investment in housing than in transportation. However one judges the results of the present survey, I think it must be admitted that the sort of information just described could be important for some public policy-making.

In our explanation of satisfaction with housing (Exhibit 6.5) by a type of analysis of constituents that will be explained in Section 6, we were able to measure the impact of the perceived gap between what seniors have and what they want on how satisfied they are with their housing. What's more, we were able to measure the relative impact of people's comparisons with their own previous best experience versus comparisons with the housing of other folks on that perceived gap. We found that people's comparisons with the housing of other folks is vastly more important than comparisons with their own previous best experience in determining that gap. If that is true, then if one had no other information and one were considering the investment of public resources in the sampled rural areas with the aim of improving the quality of housing for seniors (as they perceive it), one would at least have to consider very seriously the likelihood that dollar-for-dollar more would be accomplished by trying to provide dwellings that measured up to what people perceive as available to average folks their age than by trying to provide dwellings that measured up to the best that people had ever experienced. Again, however one judges the results of the present survey, I think it must be admitted that the sort of information just described could be important for some public policy-making.

Explanations by synthesis of correlates may provide useful information for public policy-making if, among other things, the correlates are significantly controllable. For example, if S and H were highly correlated to income and the latter could be adjusted fairly easily (through fair wage laws, training programs, taxation, etc.), then information about the precise connections between S, H and incomes could be useful in designing and monitoring remedial action. Whatever the connections really are and no matter how difficult remedial action might be, it must be admitted that the sort of information and action just described could be important for public policy-making.

3. CORRELATES OF SATISFACTION

In an excellent review article Larson (1978) summarized 30 years of research on the "subjective well-being of older Americans". "Well-being" is a catch-all term covering satisfaction and happiness with life as a whole, high morale, personal adjustment, good attitudes toward life, competence, and what Neugarten, Havighurst and Tobin (1961) called "successful aging". On the basis of the 70 references listed in his paper, Larson concluded that a variety of measuring instruments had shown that well-being was correlated with health to a degree of r = .2 to .4, socioeconomic variables (r = .1 to .3) age (r = .0 to .1), race (r = .0 to .1), sex (r = .0 to .1), employment (r = .0 to .1), marital status (r = .1 to .2), transportation (r = .1 to .2), housing (r = .1 to .2) and social activity (r = .1 to .3)(Larson, 1978, p.116).

In addition to the studies mentioned by Larson, satisfaction with life as a whole for seniors was reported to be positively correlated to good health by Loeb, Pincus and Mueller (1963), Marshall and Eteng (1970), Zibbell (1971), Falkman (1972), Githens (1975), Gerber (1976), Wolk and Telleen (1976), Sauer (1977), Toseland and Sykes (1977); to self-rated health by Snider (1980); to income by Hansen and Yoshioka

(1962), Githens (1975), Chatfield (1977) and Toseland and Sykes (1977); transportation by Cutler (1975) and Holley (1978); self-esteem by Vancoevering (1973) and Peterson (1974); social class by Gerber (1976); good primary relationships by Zeglen (1976); developmental task accomplishment by Wolk and Telleen (1976); subjective sense of social integration (Liang, et al. (1980); and better housing by Carp (1975).

Satisfaction with life as a whole was reported to be independent of religiosity by Johnson (1978), of sex by Liang (1980), and of urban-rural differences by Sauer, Shehan and Boymel (1976). The latter paper was a reply to Hynson (1975) who reported a positive correlation between happiness and rural living.

4. ACTIVITY THEORY

One of the most frequently studied correlates of satisfaction with life as a whole is activity. Quite simply, the idea is that active seniors should be generally more satisfied and happier than inactive seniors. Although the idea is usually referred to as 'activity theory', I have never seen it developed in any rigorous and extended fashion. Typically the basic idea seems to function as a guiding signal eliciting more or less closely related ideas.

One species of activity, namely, social interaction or engagement with other people (friends, immediate family, relatives, members of interest groups, etc.) has received more attention than all others. Such activity was reported to be positively correlated with life satisfaction by Rosow (1967), Riley and Foner (1968), Vancoevering (1973), Ray (1975), Toseland and Sykes (1977), Harris and Bodden (1978), Queen and Freitag (1978), and Peace, Hall and Hamblin (1979). Zibbell (1971) and Semour (1972) found this sort of correlation to obtain for women but not for men. Shaffer (1977) found the correlation to obtain only when there was congruence between the "sociability character" of people and their level of activity. Conner and Powers (1975) found the correlation to obtain only when the social interaction was age-graded, i.e. when people engaged in activities with folks of roughly their own age.

The negation of activity theory is known as 'disengagement theory'. It's the idea that seniors who reduce their interaction with others should be generally more satisfied and happier than seniors who don't. I could not find a single piece of support for this theory written after Larson (1978). George (1978, p.840) claimed that "It is...widely acknowledged that the disengagement vs activity theory debate is a specious argument," and that the recognition of this fact "led to the development and general acceptance of continuity theory". I didn't notice anyone else referring to continuity theory, and its positive content is not clear. It is clear that it involves a rejection of activity and disengagement theories. That is its negative content. Positively it seems to involve the idea that life satisfaction for seniors depends on doing something similar to what one did before reaching seniority.

Scott (1979) suggested and Markides and Martin (1979) developed and tested a path analytic model in which "'Activity' is taken as an intervening variable between the exogenous variables on the one hand, and Life Satisfaction on the other hand". (Markides and Martin, 1979, p.86). They showed that self-reported health, family income and education influenced "...Life Satisfaction not only directly but also indirectly by permitting or preventing individuals from engaging in essential life satisfying activities". (Markides and Martin, 1979, p.91).

5. CORRELATE AND CONSTITUENT MIXTURES

Some explanations of S and H involve a mixture of the two distinct types of explanations described in Section 2. For example, Cutler (1979) showed that life satisfaction was correlated with age and that its domain satisfaction constituents differed for different age groups. In his words,

> "...persons of varying ages are likely to have widely different views as to what constitutes 'the good life'.

> While the first dimension of life satisfaction for persons aged 35 to 44 includes, CITY, HOME, and WEALTH, for persons aged 65 to 74 the first dimension is defined by satisfaction with marriage and family. To assume that there is a single or unitary concept called 'life satisfaction' or 'subjective well-being', and that this concept can be simply used to index life course changes, is to assume something which does not exist". (Cutler, 1979, pp. 577-578)

Although Medley (1976) was mentioned in Larson's review, it was not noticed that Medley provided a mixed explanation of life satisfaction. Using path analysis he showed that life satisfaction was correlated with sex and that its domain satisfaction constituents differed for males and females. He also found that "Among males, financial situation strongly influenced satisfaction with standard of living but not among females," and "Health satisfaction made a substantial direct impact on satisfaction with standard of living for females but not for males". (Medley, 1976, pp. 454-455).

6. GAP THEORIES

I use the term 'gap theory' to designate any explanatory account whose central tenet is that S and H are largely, if not entirely, functions of perceived or actual gaps between different things. Generally speaking, the wider the gaps or distances between the things, the lower the levels of S and H are supposed to be. Examples include gaps between what one needs and gets, what one wants and gets, what one has had in the past and has in the present, and what one has and what someone else has. Several species of such theories were reviewed in Michalos (1980a), and the basic model explored in that paper as in this one is illustrated in Exhibit 1.

Before reviewing the use of gap theories in gerontological studies since Larson (1978), it's worthwhile to comment briefly upon their interesting logical and ontological features.

Gap theories seem to provide a species of explanation by analysis of constituents. The difference between this species of constituent explanation and the species we have considered so far is that with this species the constituent parts are different in kind from the wholes that they explain. When one combines measures of domain satisfaction constituent parts into measures of satisfaction with life as a whole, one begins and ends with satisfaction measures. However, when one combines, say, measures of the gap between one's present circumstances and one's best previous experience, and the gap between one's present circumstances and the circumstances of one's neighbours into measures of life satisfaction, one begins with measures of gaps and ends with satisfaction measures. In such cases satisfaction appears as an emergent property from things that are not themselves satisfactions. Satisfaction with life as a whole is an emergent property in these cases exactly as wetness is an emergent property arising out of the combination of hydrogen and oxygen in water molecules. Moreover, just as wetness is not merely correlated with H_2O but created by this particular mixture of atoms, life satisfaction is not merely correlated with the gaps involved in certain comparisons but it is created by particular mixtures of gaps. One might say then, that gap theories provide ontologically deeper accounts of S and H than any of the other theories and types of explanations we have considered.

Several different gap theories have been used in gerontological studies. After reviewing some of the classical works on relative deprivation theory, Liang and Fairchild (1979, p. 748) offer a path analytic account of "perceived financial adequacy among the aged", or briefly, "financial satisfaction".

In their model financial satisfaction is directly influenced by two kinds of relative deprivation, namely, self versus a reference class (β = .22) and one's present versus past situation (β = .36). The latter sort of deprivation is directly influenced by the former (β = .28), which is itself directly influenced by income (β = .36) and social status (β = .10). (Liang and Fairchild, 1979, p. 754, Figure 2). As you can see in Exhibit 6.2, the addition of a goal-achievement measure tends to strengthen the sort of model Liang and Fairchild seem to be after. Moreover, while they were able to explain 20 to 32% of the variance in financial satisfaction, I was able to account for 44% (Exhibit 7).

Heltsley and Powers (1975) reported that perceived adequacy of social interaction was related to marital status, earnings, income, housing quality and perceived health. Then they hypothesized that perceived adequacy levels might be influenced by the gaps between what seniors actually have and what they used to have or might have expected.

Kimmel, Price and Walker (1978) found that pre-retirement feelings were the best predictors of satisfaction with retirement. In essence they were appealing to an aspiration- achievement gap explanation. In their own words, "Most of the voluntary retirees said that they 'Wanted to stop working so I could enjoy retired life', and they seemed to be succeeding at this aspiration". (Kimmel, Price and Walker, 1978, pp. 583-584).

In another gap theoretical explanation, Kiyak (1978) reported that a measure of person-environment congruence was a better predictor of environmental satisfaction than either measures concerning only persons or only their environments. Finding that the frequency and scope of social interaction were relatively independent of the measured well-being of seniors, Conner, Powers and Bultena (1979) suggested a gap theoretical explanation involving the fulfillment of needs.

7. SOUTHERN HURON COUNTY SURVEY

Shortly after completing the exploratory study reported in Michalos (1980a), some of my colleagues in the RDOP and I were asked to prepare a background paper for the Ontario Advisory Council on Senior Citizens. A computerized literature search of over a million titles from Psychological Abstracts, Sociological Abstracts and Dissertation Abstracts revealed the shocking fact that in all these works there was not even one publication about rural seniors in Ontario. (Michalos, et al. (1980)). Since the RDOP had already been engaged in activities involving elderly people in Huron County, it was decided to undertake a social survey as well. Moreover, because we had been more active in the northern than in the southern townships of the county, we thought an examination of the latter would be more informative and useful. Accordingly, it was decided to survey the southern area as soon as possible.

As is frequently the case with gerontological studies, there was an immediate problem of identifying residents in the study area that were 60 years or older. The problem was solved with the help of the Huron County Health Unit. In order to monitor health needs and services, the Unit maintains fairly accurate lists of names and addresses of all seniors living in the county. We were allowed to draw a sample from the lists of two rural townships (Tuckersmith, with a total population in 1976 of 3,360, and Stanley, population 1,630) and four towns (Seaforth (2,080), Clinton (3,150), Bayfield (550) and Zurich (755)). In addition to people identified from these lists, we were allowed to interview all the residents of a local nursing home (Huronview Home) housing about 300 seniors with an average age of 87.

We planned to have a sample based on a proportional allocation scheme that would be compromised in the interest of having almost as many male as

female respondents. Given the research reviewed earlier concerning sex differences regarding satisfaction and happiness, it seemed worthwhile to try to get a sample that would allow us to contribute to that discussion. So our procedure was to try to contact one senior from every second or third household listed, selecting males and females alternately. Including the institutionalized residents of Huronview, an attempt was made to contact 638 people. Four hundred and two (63%) were interviewed. Of those who were not interviewed, 184 (29%) either refused or for some unknown reason could not be contacted, 34 (5%) were on holidays and 18 (3%) were sick. (Twenty two people on the lists had died and 21 had moved away; so strictly speaking they were irrelevant to our research). After discarding spoiled questionnaires (i.e. those in which 30% or more of the questions were not answered), we ended up with a sample of 392 people described in Exhibit 2.

The average age of our respondents was 77 years; 53% of them were female; 53% married; 63% described themselves as retired; 48% had only completed grade 8 or less; 46% reported that at some time in their lives their main income was from farming; and 18% of the noninstitutionalized people lived in the countryside of the two townships.

Contacts with respondents began with a telephone call from an interviewer who was a resident in the county and trained by our staff at the RDOP. The general procedure was to introduce the project to the respondent, try to get their consent to participate, drop off or mail out a questionnaire, and visit the respondent a week or two after they had the questionnaire to provide any help required to complete it and to pick it up. This was one of four procedures tried during our pretesting period and, all things considered, was superior to the others. While most people were willing and able to fill out the questionnaire by themselves in less than an hour, the visits by our interviewers were usually welcomed and often lasted several hours. The refusal rate tended to be higher in the towns than in the countryside, and it was frequently

necessary to emphasize that the survey was not initiated by the government. Our original instrument included a question about income, but it seemed to be so troublesome for so many people in our pretest sample that we deleted it from our final instrument.

There were 64 items in five pages in the questionnaire. Besides a page requesting demographic information, there were four pages with 13 items covering 12 domains and life as a whole. The four pages covered perceived satisfaction, the goal-achievement gap, life compared to average seniors and life compared to the best previous experience. (To save space I don't always put 'perceived' or 'reported' in front of 'satisfaction', 'goal-achievement gap' and so on. Similarly, I usually shorten phrases like 'satisfaction with recreation activity' to 'recreation'. In context these abbreviations should not be misleading).

All of the 53 substantive items called for a single checkmark on a seven point rating scale, with one off-scale option called 'No opinion.' The instructions and format of all the items were described in Michalos (1980g) and need not be repeated in detail here. Briefly, the satisfaction items were patterned after the global question "How do you feel about your life as a whole right now?" (from 'terrible' = 1 to 'delightful' = 7). The goal-achievement gap questions followed "How does it measure up to your general aspirations or what you want?" (from 'not at all' = 1 to 'matches or is better than what you want' = 7). The comparison with other folks question followed "How does it measure up to the average for most people your own age in this area?" (from 'far below average' = 1 to 'far above average' = 7). The comparison with the best previous experience question followed "How does it measure up to the best in your previous experience?" (from 'far below the previous best' = 1 to 'far above the previous best' = 7). The happiness question was "Considering your life as a whole, would you describe it as

very unhappy, unhappy, an even mixture of unhappiness and happiness, happy or very happy? ('very unhappy' = 1 and 'very happy' = 7).

It is perhaps worthwhile to mention that our pretests revealed that respondents had a difficult time understanding the goal-achievement gap questions when the word 'goal' was used. In ordinary English one often pursues, tries to get, aims for or aspires to have what one wants. So it was natural for us (i.e., researchers) to think of wants as goals, although our language is fuzzy enough to block any suggestion of simple synonymity. When we phrased our questions using the term 'want' or the phrase 'what you want' problems of interpretation seemed to disappear.

Each set of questions had a page facing it with the following definitions of domain names.

HEALTH	The present state of a person's general, overall health.
FINANCIAL SECURITY	A person's view of how well their income (including investments, property, etc.) takes care of daily needs and provides funds for unexpected or planned expenses.
FAMILY RELATIONS	Kind of contact and frequency of contact with family members. This includes personal contact, phone calls and letters.
SPOUSE	Relationship with husband or wife.
FRIENDSHIP	Kind of contact and frequency of contact with friends. This includes personal contact, phone calls, and letters.
HOUSING	The present type, atmosphere and state of the home a person lives in at the time. Suitability of the home (e.g., apartment, house, farm, room, etc.)
AREA YOU LIVE IN	The local area (concession, town, village, neighbourhood).
RECREATION ACTIVITY	Personal recreation activities engaged in for pure pleasure when a person is not doing normal daily chores or some type of work. This includes relaxing, reading, T.V., regular get togethers, church activities, arts and crafts, exercises, trips, etc.

RELIGION	Spiritual fulfillment
SELF-ESTEEM	How good a person feels about him or herself. Self-respect.
TRANSPORTATION	In general, how well public and private transportation meets the needs of a person (e.g.,convenience, expense).
GOVERNMENT SERVICES	How well does government provide for the needs of seniors (e.g.,pensions, O.H.I.P., etc.)

8. MEANS, STANDARD DEVIATIONS AND SKEWS

Exhibit 3 summarizes some of the basic statistics of our diverse measures. The entries in the first four rows are arithmetic means of the means, standard deviations and skewness measures of the 12 domain scores taken collectively. The skewness measures are those of the SPSS manual (Nie, et al., 1975). Symmetric distributions have a zero value, while positive and negative values indicate clustering of values to the left and right of the mean, respectively. Thus, the top row of Exhibit 3 tells us that the mean of the means of the 12 domain satisfaction scores was 5.18, the average standard deviation for these 12 scores was .90 and the average skew was -.59 (i.e., the values were clustered to the right of the mean). The entries in the last five rows are for each of the five global items described earlier (i.e., life as a whole satisfaction, goal-achievement gap, average folks comparisons, previous best comparisons and happiness).

From Exhibit 3 it's easy to see that, taken collectively, goal-achievement gap scores had the highest mean and standard deviation, and the most skew, with right-side clustering. Comparisons with the previous best experience yielded the lowest scores on average. Turning to the global measures, the goal-achievement gap scores again had the highest mean, but the standard deviation for this item was midway between that of the other four global items and its skew was second highest behind the average folks comparison item. The global measure involving a comparison between the present and the best in one's experience had the lowest mean of all the

global items. The mean of the global satisfaction scores for our seniors was lower than the mean of the global happiness scores. Moreover, both means were lower than their counterparts in my University of Guelph staff survey (Michalos (1980a), although 99% of the people in the latter sample were under 65 years of age. If there was any mellowing with age in the senior sample, it's not revealed in comparison with the Guelph sample.

Exhibit 4 summarizes some of the basic statistics for the 12 domains and the four different kinds of indicators. In terms of satisfaction, highest mean ratings went to family life, housing, spouse and friendships in that order. For goal-achievement gap scores, highest mean ratings went first to family life again, then there was a three-way tie for second place with spouse, housing and religion. For scores involving a comparison with average seniors, the highest mean ratings went to spouse, family life, housing and friendships. Comparisons with the best previous experience yielded highest ratings for family life, religion, housing and financial security.

For satisfaction, the lowest mean rating went to transportation; for the goal-achievement gap it was health; for average folks comparisons it was recreation and for comparisons with the best previous experience it was again health.

9. THE MICHIGAN MODEL

Exhibits 5.1, 5.2, 6.1 - 6.12 illustrate the application of a couple of gap-theoretic models that I referred to in Michalos (1980a) as simply 'the Michigan model' and 'a plausible competitor'. In all of these exhibits S and H are interpreted as usual, while G is short for the goal-achievement gap, P for comparisons with the best previous experience and A for comparisons with average folks of the same age.

The model on the left is the Michigan model and the model on the right is a plausible competitor. Thus, in the Michigan model, S is supposed to be caused directly by G which is in turn directly caused by P and A. In its competitor, S is directly caused by P, G and A. The numbers in parentheses along the shafts are the zero-order correlation coefficients between the variables named at either end of the shafts, while the other numbers are standardized regression coefficients (betas) or path coefficients. For example, then, in the Michigan model of Exhibit 5.1, the numbers above the arrow from P to G indicate that the Pearson r between these variables is .35, and that there will be an average change of .24 in G for every unit change in P (when both P and G are standardized to have means of zero and standard deviations of one).

"A major goal of theory," Duncan wrote, "...should be to supply a model that will make some of the exogenous variables endogenous." (Duncan, 1975, p. 43). Although the Michigan model is not connected to any clearly articulated theory, the fact that the model does have the formal advantage over its competitor that Duncan recommends certainly counts in its favour. If this formal advantage also yields substantive or material advantages in the form of stronger connections among all the variables in the system, that would also count in its favour. Thus, testing the Michigan model means, in the present context, comparing its features to those of its competitor and answering the following question: Are all or most of the path coefficients in the Michigan model bigger than their alternatives in its competitor? In other words, does the Michigan model represent a system or structure of relationships that is usually stronger or tighter than the system represented by its competitor? A second question of interest concerns the relative strength of the connections from P to G, and A to G. Campbell, Converse and Rodgers (1976) and Andrews and Withey (1976) found that the former (P to G) was uniformly stronger than the latter (A to G) in the domains they examined.

Their investigations, however, did not involve seniors exclusively. So the question is: Will the relative strength of these connections be duplicated for all domains and life as a whole for senior citizens? Third, since no one else has been able to test the Michigan model in as many areas of concern as I have, it is worthwhile to see how it fares in the diverse areas. My aim, of course, is to find an explanatory model of satisfaction and happiness that will work in all areas.

Inspection of Exhibits 5.1 and 5.2 reveals that our basic question has an affirmative answer. In 5.1, for example, P and A are stronger predictors of G than of S, as hypothesized in the Michigan model. G to S connections (betas) are the strongest in the systems whether one adopts the Michigan model or not. Similar remarks apply to Exhibit 5.2, with H substituted for S. However, the P to G connection in 5.1 and 5.2 is weaker than the A to G connection.

Exhibits 6.1 - 6.12 summarize the results of testing the Michigan model in twelve domains. In these cases, S, P, G and A have to be interpreted as <u>domain specific</u>. For example, in Exhibit 6.1, S is short for satisfaction with one's own health, P for comparisons with the best previous experience of one's own health, A for comparisons of one's own health with that of average folks of one's age, and G for the gap between one's health goals and one's achievement of those goals (i.e., between the health that one would like to have and the health that one actually has). In two-thirds of the domains the Michigan model is clearly superior to its competitor. With the exception of housing, religion, self-esteem and the area in which people live, in every domain P and A are better predictors of G than of S. In the four domains where the Michigan model does not completely dominate its competitor, it's always the P to G connection that is weaker than the P to S connection. The A to G connection is always stronger than the A to S connection.

Land (1969) recommended that paths with coefficients lower than .05 should be deleted from models as meaningless. On the basis of this criterion of path deletion, no paths in either the Michigan model or its competitor should be deleted. The Michigan model is especially strong in the domains of transportation (Exhibit 6.11) and health (6.1), and especially weak in the domains of religion (6.8) and friendships (6.4). Comparisons with the best previous experience have very little to do ($\beta < .10$) with the goal-achievement gap in the domains of housing (6.5) and self-esteem (6.9).

Because several of our interviewers reported that respondents told them they were not really concerned about other seniors and were especially not interested in comparing themselves to others, I expected to find comparisons with other folks to be a relatively useless variable. On the contrary, in all 12 domains the path coefficient connecting A to G is greater than that connecting P to G. Thus, for global and domain assessments,

comparisons with other folks of the same age in the study area are the primary determinants of the perceived gap between what seniors want and what they have. The latter, in turn, is the main determinant of reported satisfaction.

Exhibit 7 records the various percents of variance explained in the multiple regressions used to construct the paths in Exhibits 5.1, 5.2, 6.1 - 6.12. Some of the coefficients of determination (R^2) are fairly substantial, e.g., transportation (.680), spouse (.599) and health (.586). The percent of variance explained in satisfaction (30%) and happiness (26%) with life as a whole by P, A and G is, relative to the preceding figures, unimpressive. Most of the figures in Exhibit 7 are less impressive than their analogues in Michalos (1980a, Exhibit 9).

10. EXPLANATIONS BY CORRELATES AND CONSTITUENTS

Exhibit 8 summarizes some attempts to account for global satisfaction in terms of satisfaction in 12 domains plus two or three demographic variables. Taking the total sample together, 49% of the variance in S was explained. The most influential variables were satisfaction with housing (β = .207), health (β = .180) and self-esteem (β = .174). Remarkably, in the light of other research reported above, transportation (β = .046), spouse (β = .057), friendships (β = .080) and recreation activity (β = .077) were relatively unimportant. In the case of satisfaction with one's spouse, it's possible that there was some confusion between responses to this item and satisfaction with family relations. Perhaps the predictive power of both items was split between them somehow.

When the sample was divided into males and females, 47% of the variance in S was explained for the former and 50% for the latter. The patterns of most and least influential variables differed for the two sexes. For males satisfaction with self-esteem (β = .298), housing (β = .184) and family life (β = .146) had the greatest impact on S. For females it was housing (β = .186), recreation activity (β = .177) and religion (β = .175). The least important domain satisfaction variable for males was recreation and for females, spouse. Thus, our results clearly support the view that there are important sex differences in the relative impact of constituent satisfactions on satisfaction with life as a whole.

When the sample was divided into those who had lived in households in which the main income came from farming versus those who had not, 46% of the variance in S was explained for each group. Again, the patterns of most and least influential variables differed for the two groups. For farm people satisfaction with religion (β = .210), health (β = .190) and housing (β = .156) had the greatest impact on S. For people with no farming in their background, it was self-esteem (β = .220), housing (β = .216) and health (β = .177). The least important domain satisfaction variable for the farm people was friendships and for the others, recreation activity.

Considering the fact that only 3 of over 50 publications on seniors that I studied for this paper were devoted exclusively to rural folks, I think the results reported above suggest that further explorations into farm-nonfarm differences <u>within</u> the class of rural residents as usually specified would be worthwhile. Usually people living in incorporated cities, towns and villages with a population of less than some specified number (e.g., 1,000 or 2,500) and people living in the countryside are put into the same class for analysis. But that may just hide important differences between farm and nonfarm rural dwellers.

When the sample was divided into those aged 60 - 74 and those aged 75 and above, 44% of the variance in S was explained for the former and 53% for the latter. For the former (60-74) satisfaction with housing (β = .210), government services (β = .199) and family life (β = .186) had the greatest impact on S. For the latter (75 and above) it was health (β = .278), religion (β = .246) and housing (β = .229). The least important domain satisfaction variable for the former was recreation (β = .018) and for the latter, family life. As in the case of male satisfaction with recreation, the F-level for the variable satisfaction with family life for people aged 75 and above was too low to allow its inclusion in the regression equation. These results are particularly thought-provoking because they suggest that it may be seriously misleading to treat all people over 60 or 65 as if they had the same pattern of constituent elements in their satisfaction with life as a whole.

Exhibit 9 summarizes a set of investigations parallel to those reviewed in Exhibit 8, with happiness with life as a whole, H, as the dependent variable. Taking the total sample together, only 32% of the variance in H was explained. The most influential variables were satisfaction with spouse (β = .298), friendships (β = .228) and health (β = .116). The least important variable was housing.

When the sample was divided into males and females, 27% of the variance in H was explained for the former and 37% for the latter. Again, there were differences in the most and least influential variables for the two sexes. For males satisfaction with spouse (β = .232), recreation (β = .174) and health (β = .112) had the greatest impact on H. For females it was friendships (β = .361), spouse (β = .348) and government services (β = .134). The least influential variable for males were religion and government services and for females, religion.

When the sample was divided into those who had lived in households in which the main income came from farming versus those who had not, 36% of the variance in H was explained for the former and 33% for the latter. Again, the patterns of most and least influential variables differed for the two groups. For farm people satisfaction with friendships (β = .252), spouse (β = .232) and religion (β = .137) had the greatest impact on H. For people with no farming in their backgrounds, it was spouse (β = .387), friendships (β = .211) and health (β = .166). The least important domain satisfaction variable for the farm people was government services, and for the others transportation and the area in which they lived were least important.

When the sample was divided into those aged 60 - 74 versus 75 and above, 39% of the variance in H was explained for the former and 30% for the latter. For the former, satisfaction with spouse (β = .363), friendships (β = .204) and government services (β = .162) had the greatest impact on H. For the latter, it was friendships (β= .270), spouse (β = .177) and financial security (β = .124). The least important domain satisfaction variable for the 60 - 74 group was recreation and for the others, family life.

The most striking feature of Exhibits 8 and 9 is the fact that the three most influential domain satisfaction constituents for S and H are different more often than they are the same. The top three constituents for male S are different from the top three constituents for male H. The same is true for female S and H.

For the total sample two of the top three constituents of S are different from those of H. Similarly, for farm people two of the top three constituents of S are different from those of H; and the same is true for the non-farm group. Again, for the 60 - 74 group two of the top three constituents of S are different from those of H; and for the 75 and above group all of the top three constituents for S are different from the top three constituents for H.

Besides having different constituents in the top three for S and H more often than not, there is some difference in the rank-ordering of the matching constituents. For example, for the group as a whole, satisfaction with health is the second most important constituent in S, but the third in H. For farm people religion is the most important constituent in S, but the third in H.

Giving 3 points to a constituent element each time it is the most influential variable in some group, 2 points for being second and 1 point for third, each element may be assigned a total rank-order number by summing its values across all groups. Thus, satisfaction with housing is the most important constituent element in S, with 15 rank-ordering points. It's next competitor is satisfaction with health (8 points) and then self-esteem (7 points). Satisfaction with spouse (18 points) and friendships (15 points) are the dominant elements in H.

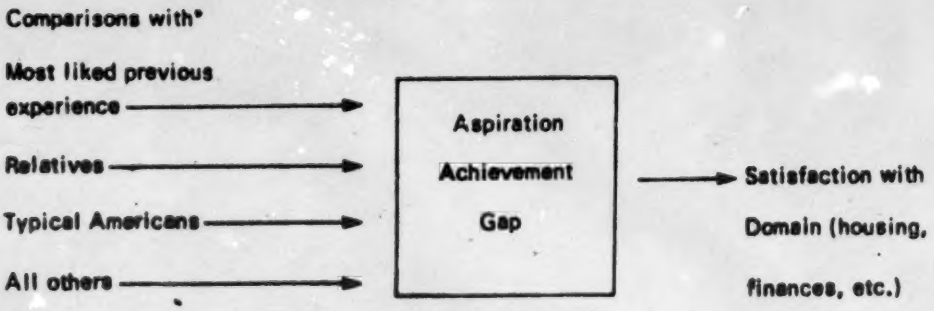
Clearly then, although S and H are significantly correlated at r = .40 (P = .0001), there are notable differences in their most important constituent elements. Moreover, it is nearly as clear that the influential constituents in H tend to involve interpersonal relationships, while the constituents in S don't. Satisfaction with housing has by far the greatest impact on satisfaction with life as a whole, while satisfaction with one's spouse and friendships have by far the greatest impact on happiness with life as a whole. Thus, if the quality of life or well-being of these rural seniors were to be improved, one would have to decide (among other things) whether it is finally their satisfaction or happiness with life as a whole that is the target.

Given the sorts of influential constituents in S and H, it might be easier to intervene in the interests of altering the former rather than the latter.

11. CONCLUSION

After reviewing recent gerontological literature on satisfaction and happiness from the point of view of explanations by analysis of constituents, explanations by synthesis of correlates and mixtures of these two types of explanations, I described some results of a social survey of rural Ontario seniors. A gap-theoretical account of satisfaction and happiness called 'the Michigan model' was supported for 12 domains and life as a whole. Differences in the constituent patterns for satisfaction and happiness with life as a whole were found for males, females, those who had lived off farming, those who had not, people aged 60-74, and 75 and above.

Exhibit 1. Campbell, Converse and Rodgers (1976) model of satisfaction with particular domains as a function of comparisons and an aspiration-achievement gap.



* Comparisons are listed in order of their influence on aspirations.

Exhibit 2. Sample Composition

		N	%
Sex:	Male	184	47
	Female	206	53
		390	100
Age:	60-64	14	4
	65-69	118	30
	70-74	106	27
	75-79	73	18
	80-up	81	21
		392	100

Marital Status	N	%
Single	35	9
Married	208	53
Widowed	143	36
Separated	3	1
Divorced	3	1
	392	100

Education	N	%
Completed grade 8 or less	183	48
Completed 10 or less	86	22
Completed 13 or less	62	16
Completed some college, university, trade school	31	8
Degree, college or univ.	22	6
	384	100

*Percent of the total population 60+ years in each area according to Huron County Health Unit lists.

Place of Residence	N	%	HU%*
Seaforth	77	20	25
Clinton	105	27	26
Bayfield	50	13	9
Zurich	28	7	7
Tuckersmith	40	10	10
Stanley	21	5	9
Huronview	61	15	15
Other	10	3	0
	392	100	100

Work Status	N	%
Employed	20	5
Unemployed	2	0
Retired	236	63
Semi-retired	25	7
Homemaker	57	15
Semi-retired homemaker	30	8
Other	6	2
	376	100

Main income from Farming	N	%
Farm	181	46
Non-farm	210	54
	391	100

Exhibit 3. Means, Standard Deviations and Skews

Average for 12 domains	Mean	Standard Deviation	Skew
Satisfaction	5.18	.90	- .59
Goal-achievement	5.53	1.11	- .74
Average folks	4.57	1.04	.28
Previous best	3.98	1.02	.11
Global items			
Satisfaction	5.19	0.77	-0.47
Goal-achievement	5.60	0.98	-0.75
Average folks	4.55	0.92	0.80
Previous best	3.88	1.00	-0.08
Happiness	5.30	1.08	0.00

Exhibit 4. Domain Means, Standard Deviations and Skews*

	Means				Standard Deviations				Skews			
	SAT	GOAL	AVE	BEST	SAT	GOAL	AVE	BEST	SAT	GOAL	AVE	BEST
Health	4.74	5.05	4.47	3.27	1.09	1.23	1.18	1.15	- .71	- .80	-.01	.00
Financial security	5.03	5.36	4.36	4.13	.75	1.08	.96	1.11	-1.11	- .86	.27	-.03
Family life	5.57	5.83	4.97	4.22	.94	1.04	1.15	.95	- .65	- .99	-.06	.32
Spouse	5.42	5.75	5.01	4.00	1.14	1.21	1.28	1.33	-1.08	-1.26	-.35	-.11
Friendships	5.41	5.69	4.66	4.08	.77	.92	1.00	.83	.16	- .43	.54	.28
Housing	5.44	5.75	4.67	4.15	.79	1.00	1.02	1.06	- .52	- .62	.74	.02
Area you live in	5.36	5.73	4.61	4.07	.82	.97	.94	.92	- .35	- .78	.67	.16
Recreation activity	4.98	5.18	4.21	3.56	.97	1.30	1.07	1.15	- .56	- .79	.03	-.23
Religion	5.34	5.75	4.64	4.18	.72	.95	.96	.87	.34	- .35	.79	.57
Self-esteem	5.14	5.62	4.50	4.12	.70	.95	.81	.75	- .11	- .28	.87	.34
Transportation	4.68	5.07	4.25	3.56	1.25	1.54	1.22	1.21	-1.22	- .95	-.39	-.48
Government services	5.05	5.53	4.44	4.40	.87	1.08	.91	.92	-1.23	- .81	.30	.42

*SAT is short for satisfaction, GOAL for goal achievement, AVE for average folks comparison and BEST for previous best comparison.

EXHIBIT 5.1 SATISFACTION WITH LIFE AS A WHOLE

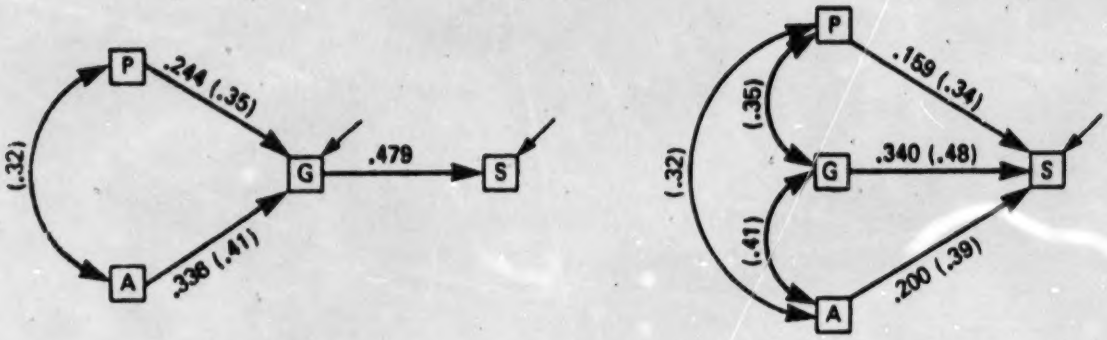
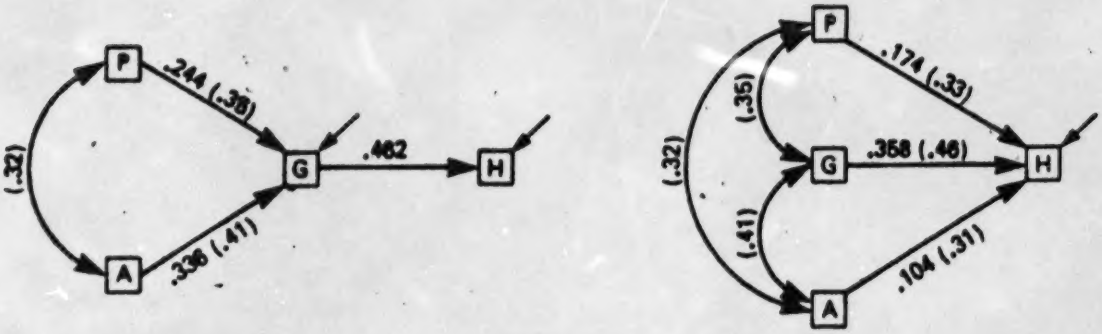


EXHIBIT 5.2 HAPPINESS WITH LIFE AS A WHOLE



S SATISFACTION WITH LIFE AS A WHOLE
H HAPPINESS WITH LIFE AS A WHOLE
P COMPARISONS WITH BEST PREVIOUS EXPERIENCE
G GOAL-ACHIEVEMENT GAP
A COMPARISONS WITH AVERAGE FOLKS

EXHIBIT 6.1 SATISFACTION WITH HEALTH

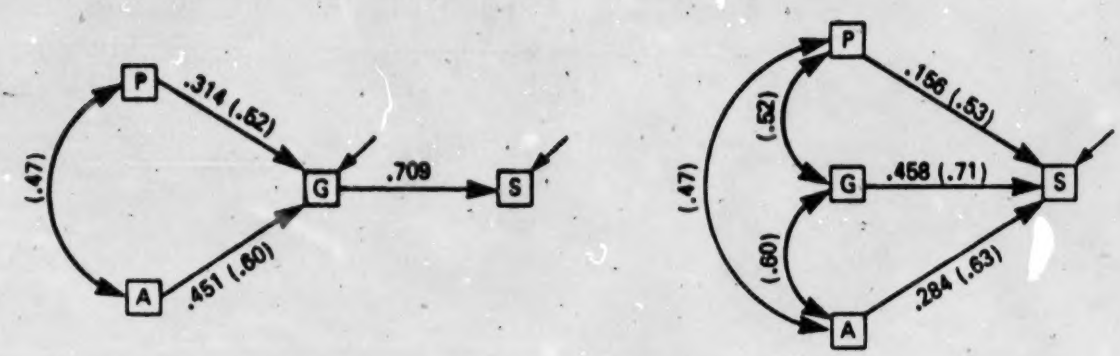


EXHIBIT 6.2 SATISFACTION WITH FINANCIAL SECURITY

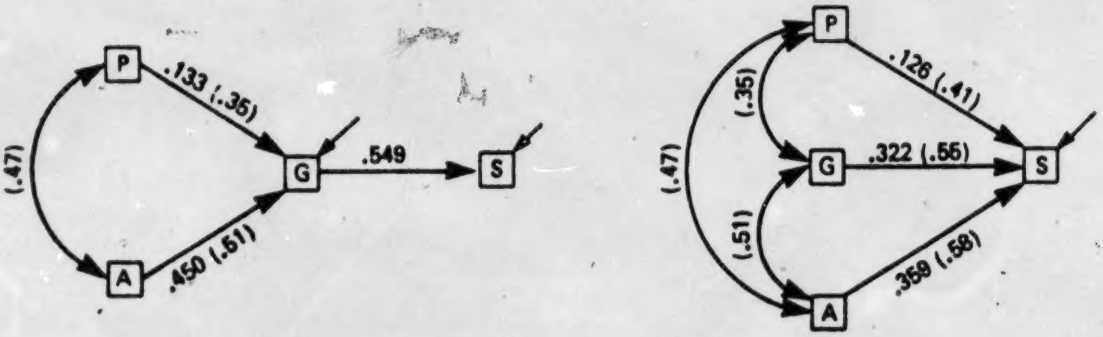


EXHIBIT 6.3 SATISFACTION WITH FAMILY LIFE

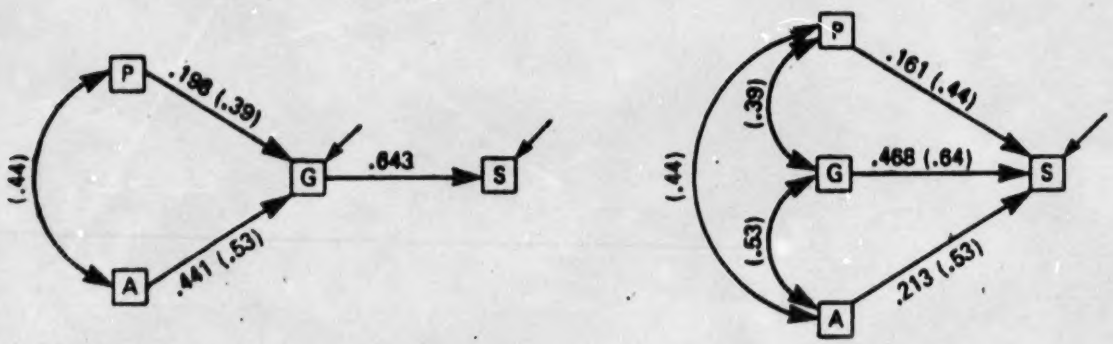
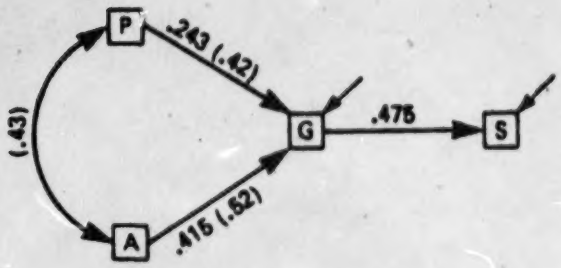


EXHIBIT 6.4 SATISFACTION WITH FRIENDSHIPS



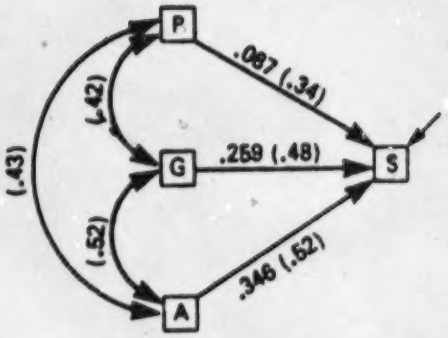
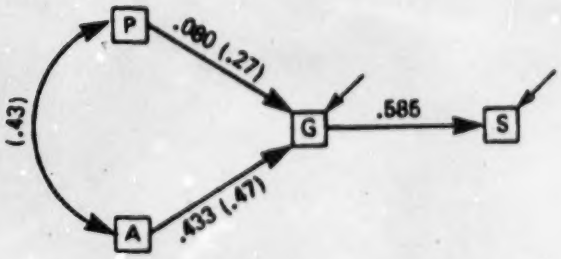


EXHIBIT 6.5 SATISFACTION WITH HOUSING



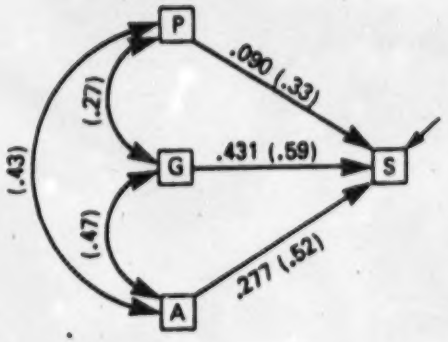
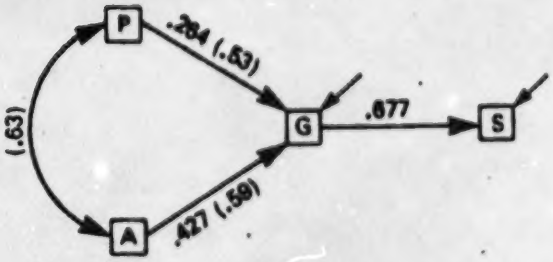


EXHIBIT 6.6 SATISFACTION WITH SPOUSE



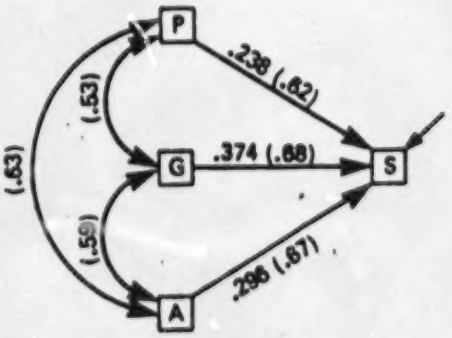
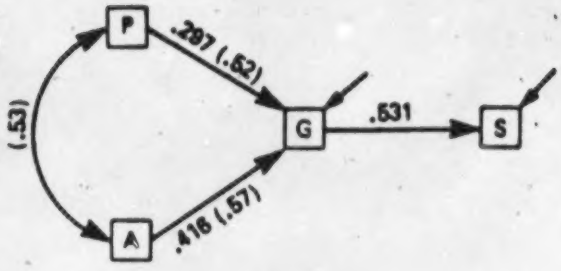


EXHIBIT 6.7 SATISFACTION WITH RECREATION ACTIVITY



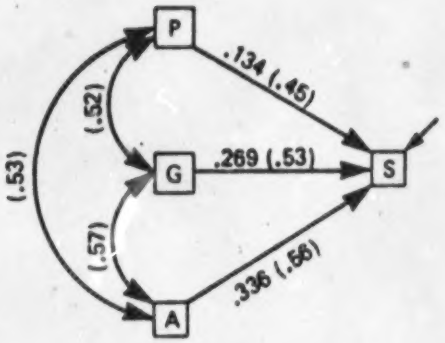
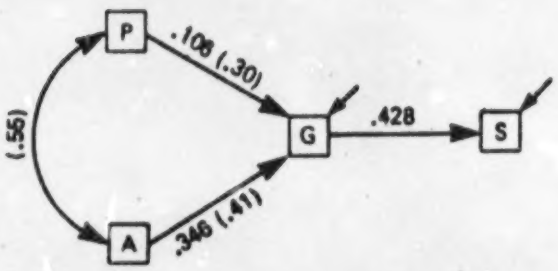


EXHIBIT 6.8 SATISFACTION WITH RELIGION



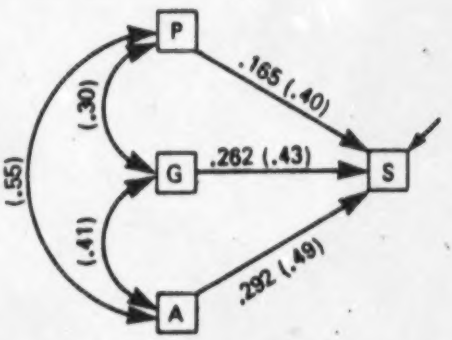
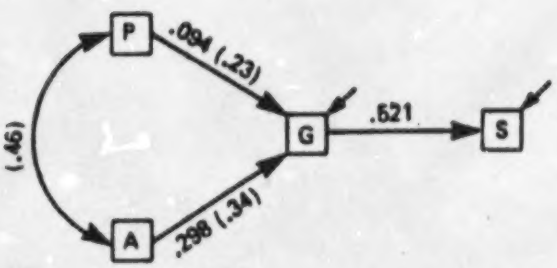


EXHIBIT 6.9 SATISFACTION WITH SELF-ESTEEM



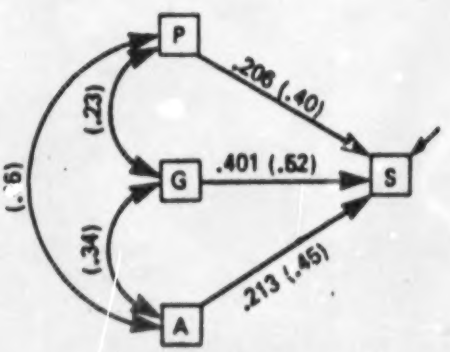


EXHIBIT 6.10 SATISFACTION WITH AREA YOU LIVE IN

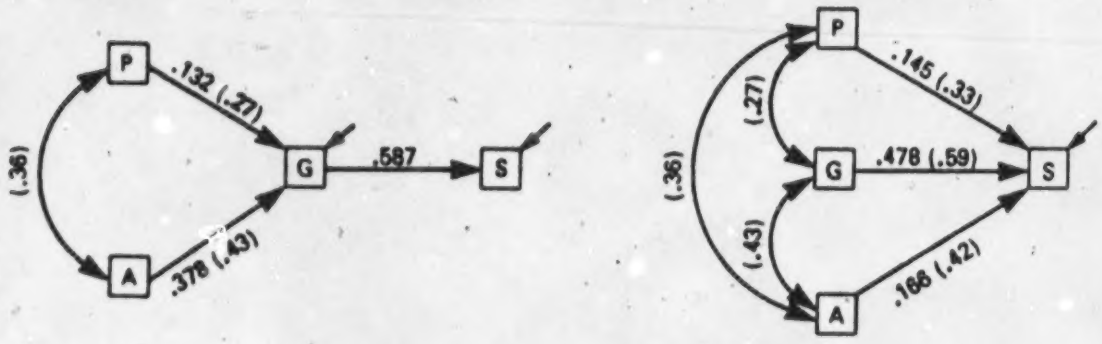


EXHIBIT 6.11 SATISFACTION WITH TRANSPORTATION

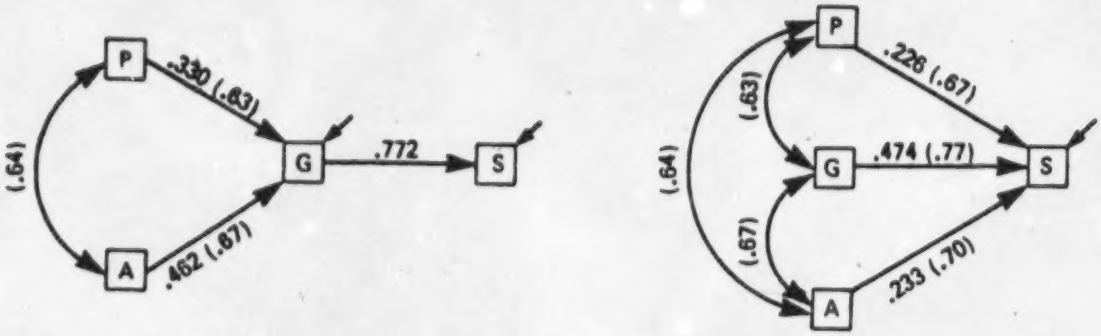


EXHIBIT 6.12 SATISFACTION WITH GOVERNMENT SERVICES

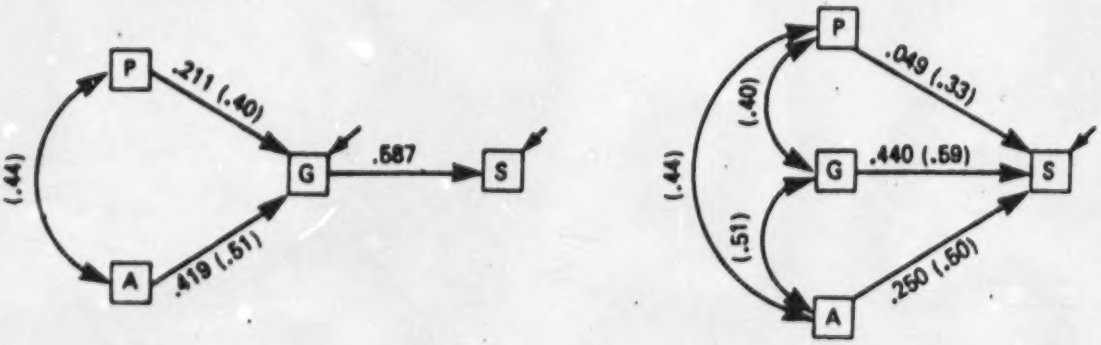


Exhibit 7. Percent of Variance explained in Path Models of Exhibits 5.1, 5.2, 6.1-6.12

Dependent variables: Satisfaction with	R^2 from 3 Predictors* (P=.001)	Dependent variables: Goal-achievement gap	R^2 from 2 Predictors** (P=.001)
Health	.586	Health	.434
Financial security	.437	Financial security	.276
Family life	.484	Family life	.310
Friendships	.332	Friendships	.318
Housing	.425	Housing	.223
Spouse	.599	Spouse	.394
Recreation activity	.391	Recreation activity	.392
Religion	.321	Religion	.171
Self-esteem	.385	Self-esteem	.123
Area you live in	.399	Area you live in	.196
Transportation	.680	Transportation	.518
Government services	.340	Government services	.297
Life as a whole	.296	Life as a whole	.225
Happiness with life as a whole	.255		

*Goal-achievement gap, comparisons with previous best and average folks.

**Comparisons with previous best and average folks.

Exhibit 8. Multiple Regression of Satisfaction with Life as a Whole on Satisfaction with 12 Domains and 3 Demographic Variables

Predictors	Whole Group 49 (N=273) Beta	Males 47 (N=149) Beta	Females 50 (N=121) Beta	Farm Income 46 (N=130) Beta	No Farm Income 46 (N=141) Beta	Aged 60-74 44 (N=170) Beta	Aged 75 - up 53 (N=102) Beta
Percent of variance explained:***							
Satisfaction with							
Family life	.102	.146	.044	.144	.068	.186	*
Friendships	.080	.057	.129	.009	.116	.066	.079
Financial security	-.011	-.096	.075	.087	-.054	-.048	.019
Self-esteem	.174	.298	.069	.139	.220	.179	.144
Spouse	.057	.117	-.010	-.014	.098	.107	-.021
Health	.180	.129	.207	.190	.177	.109	.278
Transportation	.046	-.017	.066	.011	.066	.099	.022
Recreation	.077	*	.177	.108	.033	.018	.165
Housing	.207	.184	.186	.156	.216	.210	.229
Religion	.134	.105	.175	.210	.084	.068	.246
Area you live in	.010	.119	-.073	-.019	.055	.017	-.024
Government services	.134	.106	.165	.114	.155	.199	-.021
Demographic variables							
Sex	-.015	**	**	-.054	.009	*	-.052
Age	-.064	*	-.089	-.067	-.065	**	**
Formal education	*	-.015	*	-.033	.037	*	-.014

*F-level for this variable was too low for admission.
**Not in equation.
***p=.001

Exhibit 9. Multiple Regression of Happiness with Life as a Whole on Satisfaction with 12 Domains and 3 Demographic Variables

Predictors	Whole Group (N=273) Beta	Males (N=149) Beta	Females (N=121) Beta	Farm Income (N=130) Beta	No Farm Income (N=141) Beta	Aged 60-74 (N=170) Beta	Aged 75 - up (N=102) Beta
Percent of variance explained:***	32	27	37	36	33	39	30
Satisfaction with							
Family life	-.028	.022	-.075	-.029	-.029	-.034	-.013
Friendships	.228	.103	.361	.252	.211	.204	.270
Financial security	.057	.044	.046	.060	.059	-.013	.124
Self-esteem	.086	.131	.036	.094	.035	.067	.056
Spouse	.298	.232	.348	.232	.387	.363	.177
Health	.116	.112	.132	.088	.166	.147	.097
Transportation	.046	-.015	.083	.107	*	.159	-.049
Recreation	.035	.174	-.080	.079	.014	*	.081
Housing	-.010	.020	-.053	-.020	-.027	-.035	.017
Religion	.012	*	.033	.137	-.055	-.009	.088
Area you live in	.014	.095	-.064	.040	*	.070	-.108
Government services	.080	*	.134	*	.133	.162	-.106
Demographic variables							
Sex	-.086	**	**	-.111	-.032	-.067	-.184
Age	.025	.058	*	.109	-.051	**	**
Formal education	.024	.031	.027	.035	*	.040	.046

*F-level for this variable was too low for admission
**Not in equation.
***P=.001

REFERENCES

Andrews, F.M. and Withey, S.B. (1976). Social Indicators of Well-Being. New York: Plenum Press.

Campbell, A., Converse, P.E. and Rodgers, W.L. (1976). The Quality of American Life. New York: Russell Sage Foundation.

Carp, F.M. (1975). Impact of Improved Housing on Morale and Life Satisfaction. The Gerontologist, 15, 511-515.

Chatfield, W.F. (1977). Economic and Sociological Factors Influencing Life Satisfaction of Aged. Journal of Gerontology, 32, 593-599.

Conner, K.A. and Powers, E.A. (1975). Structural Effects and Life Satisfaction Among the Aged. International Journal of Aging and Human Development, 6(4), 321-327.

Conner, K.A., Powers, E.A. and Bultena, G.L. (1979). Social Interaction and Life Satisfaction: An Empirical Assessment of Late-Life Patterns. Journal of Gerontology, 34, 116-121.

Cutler, N.E. (1979). Age Variations in the Dimensionality of Life Satisfaction. Journal of Gerontology, 34, 573-578.

Cutler, S.J. (1975). Transportation and Changes in Life Satisfaction. The Gerontologist, 15, 155-159.

Duncan, O.D. (1975). Introduction to Structural Equation Models. New York: Academic Press.

Falkman, P.W. (1972). Objective Subjective and Continuity Correlates of Life Satisfaction in an Elderly Population. Ames: Iowa State University, doctoral dissertation.

George, L.K. (1978). The Imact of Personality and Social Status Factors Upon Levels of Activity and Psychological Well-Being. Journal of Gerontology, 33, 840-847.

Gerber, K.E. (1976). An Analysis of Satisfaction with Later Life in a Diverse Group of Elderly Individuals. Tucson: University of Arizona, doctoral dissertation.

Githens, G.J. (1975). A Study of the Effects of Income, Physical Health, Sex and Marital Status on the Life Satisfaction of Aged Individuals. Norman: University of Oklahoma, doctoral dissertation.

Hansen, G. and Yoshioka, S. (1962). Aging in the Upper Midwest: A Profile of 6,300 Senior Citizens. Kansas City: Community Studies.

Harris, J.E. and Bodden, J.L. (1978). An Activity Group Experience for Disengaged Elderly Persons. Journal of Counselling Psychology, 25, 325-330.

Heltsley, M.E. and Powers, R.C. (1975). Social Interaction and Perceived Adequacy of Interaction of the Rural Aged. The Gerontologist, 15, 533-536.

Holley, M.R. (1978). Components of Life Satisfaction of Older Texans: A Multidimensional Model. Denton: North Texas State University, doctoral dissertation.

Hynson, L.M. (1975). Rural-Urban Differences in Satisfaction Among the Elderly. Rural Sociology, 40, 64-66.

Johnson, L.M. (1978). Religious Patterns, Coping Mechanisms and Life Satisfaction of the Black and White Aged. Saint Louis: Saint Louis University, doctoral dissertation.

Kimmel, D.C., Price, K.F. and Walker, J.W. (1978). Retirement Choice and Retirement Satisfaction. Journal of Gerontology, 33, 575-585.

Kiyak, H.A. (1978). Person-Environment Congruence Models as Determinants of Environmental Satisfaction and Well-Being in Institutions for the Elderly. Detroit: Wayne State University, doctoral dissertation.

Land, K.C. (1969). Principles of Path Analysis. Sociological Methodology: 1969, ed. E.F. Borgatta (San Francisco: Jossey Bass).

Larson, R. (1978). Thirty Years of Research on the Subjective Well-Being of Older Americans. Journal of Gerontology, 33, 109-125.

Liang, J. (1980). Sex Differences in Life Satisfaction Among the Elderly. Paper presented at the 33rd Annual Meeting of the Gerontological Society, San Diego, California, November 21-25, 1980.

Liang, J. and Fairchild, T.J. (1979). Relative Deprivation and Perception of Financial Adequacy Among the Aged. Journal of Gerontology, 34, 746-759.

Liang, J. et al. (1980). Social Integration and Morale: A Re-examination Journal of Gerontology, 35, 746-757.

Loeb, M., Pincus, A. and Mueller, J. (1963). Growing Old in Rural Wisconsin. Madison: University of Wisconsin School of Social Work.

Markides, K.S. and Martin, H.W. (1979). A Causal Model of Life Satisfaction Among the Elderly. Journal of Gerontology, 34, 86-93.

Marshall, D. and Eteng, W. (1970). Retirement and Migration in the North Central States: A Comparative Analysis; Wisconsin, Florida, Arizona. Population Series #20. Madison: University of Wisconsin, Department of Rural Sociology.

McKennell, A.C. (1978). Cognition and Affect in Perception of Well-Being. Social Indicators Research, 5, 389-426.

Medley, M.L. (1976). Satisfaction with Life Among Persons Sixty-five Years and Older; A Causal Model. Journal of Gerontology, 31, 448-455.

Michalos, A.C. (1980a). Satisfaction and Happiness. Social Indicators Research, 8, 385-422.

_____. (1980b). A Reconsideration of the Idea of a Science Court. Research in Philosophy and Technology, Volume III. (ed.). P. Durbin. Greenwich: JAI Press.

_____. (1981). Technology Assessment, Facts and Values. Research in Philosophy and Technology, Volume IV., (ed.) P. Durbin. Greenwich: JAI Press.

Michalos, A.C., et al. (1980). Towards an Understanding of the Rural Elderly. Toronto: Ontario Advisory Council on Senior Citizens.

Neugarten, B.L., Havighurst, R.J. and Tobin, S.S. (1961). The Measurement of Life Satisfaction. Journal of Gerontology, 16, 134-143.

Nie, N.H. et al. (1975). Statistical Package for the Social Sciences. New York: McGraw-Hill Book Co.

Peace, S.M., Hall, J.F. and Hamblin, G.R. (1979). The Quality of Life of the Elderly in Residential Care: A Feasibility Study of the Development of Survey Methods. London: Polytechnic of North London.

Peterson, J.L. (1974). Personality Effects of Self-Esteem, Need Motivation, and Locus of Control on the Life Satisfaction of Older Black Adults. Ann Arbor: University of Michigan, doctoral dissertation.

Queen, L. and Freitag, C.B. (1978). A Comparison of Externality, Anxiety, and Life Satisfaction in Two Aged Populations. Journal of Psychology, 98, 71-74.

Ray, R.O. (1975). An Analysis of Factors Affecting Life Satisfaction and Activity Levels of Senior Citizens at Selected Locations in Maryland. College Park: University of Maryland, doctoral dissertation.

Riley, M. and Foner, A. (1968). Aging and Society, Volume 1. New York: Russell Sage Foundation.

Rosow, I. (1967). Social Integration of the Aged. New York: Free Press.

Sauer, W.J. (1977). Further Note on Elderly, Satisfaction, and Place of Residence-Reply. Rural Sociology, 42, 110-111.

Sauer, W.J. Shehan, C. and Boymel, C. (1976). Rural-Urban Differences in Satisfaction Among the Elderly: A Reconsideration. Rural Sociology, 41, 269-275.

Scott, J.P. (1979). Single Rural Elders: A Comparison of Dimensions of Life Satisfaction. Alternative Lifestyles, 2, 359-378.

Semour, G.O. (1972). Activity Level, The Sense of Personal Autonomy and Life Satisfaction in Old Age. Boston: Boston University, doctoral dissertation.

Shaffer, N.G. (1977). The Influence of Activity Level, Personality Traits, and Social-Demographic Variables on Life Satisfaction in Elderly Women. Washington, D.C.: The Catholic University of America, doctoral dissertation.

Snider, E.L. (1980). Explaining Life Satisfaction: It's the Elderly's Attitudes that Count. Social Science Quarterly, 61, 253-263.

Toseland, R. and Sykes, J. (1977). Senior Citizens Center Participation and Other Correlates of Life Satisfaction. The Gerontologist, 17, 235-241.

Vancoevering, V.G.R. (1973). An Exploratory Study of Middle-Aged and Older Widows to Investigate those Variables Which Differentiate High and Low Life Satisfaction. Detroit: Wayne State University, doctoral dissertation.

Wolk, S. and Telleen, S. (1976). Psychological and Social Correlates of Life Satisfaction as a Function of Residential Constraint. Journal of Gerontology, 31, 89-98.

Zeglen, M.E. (1976). The Impact of Primary Relationships on Life Satisfaction of the Elderly. Pullman: Washington State University, doctoral dissertation.

Zibbell, R.A. (1971). Activity Level, Future Time Perspective and Life Satisfaction in Old Age. Boston: Boston University, doctoral dissertation.